

# BRIDGING FIRST YEAR BARRIERS: FOSTERING BELONGING IN THE BIOLOGY LEARNING SPACE

Osu Lilje<sup>a</sup>, Minh Huynh<sup>b</sup>, Ella Collins-White<sup>b</sup> and Shahnnoosh Hayamanesh<sup>a</sup>

Presenting Author: Osu Lilje ([osu.lilje@sydney.edu.au](mailto:osu.lilje@sydney.edu.au))

<sup>a</sup>School of Life and Environmental Sciences, Faculty of Science, The University of Sydney, NSW 2006, Australia

<sup>b</sup>Educational Innovation, Deputy Vice-Chancellor (Education) Portfolio, The University of Sydney, NSW 2006, Australia

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First year units can be extremely challenging, as teaching teams balance students' ongoing transition into university life with important foundational content which will allow them to thrive throughout their academic and professional life. The connection between both sides of this learning cannot be overstated, as a growing body of research demonstrates the importance of belonging in academic settings (Allen *et al.*, 2018; Korpershoek *et al.*, 2020; Edwards *et al.*, 2022 as cited in Weeks *et al.* 2023), with students who feel a sense of belonging more likely to achieve positive educational outcomes. Fostering this sense of belonging is not always easy as barriers can arise in the many aspects of the learning environment that are beyond the control of the teaching team. One of these can be the learning space allocated to your cohort. Our presentation will explore the example of "From Molecules to Ecosystems" a first-year biology unit of study, where the challenges were multilayered. It is a large and diverse cohort of over 1500 students, with a relatively high number of equity students (at 30%). Students join the class at different stages in their biology learning journey, which impacts their confidence with the material and their ability to share knowledge. Further hindering belonging in the classroom, the learning space where the laboratory-based practical classes are held create a literal barrier for students to communicate with each other, which can heighten a sense of alienation and isolation for some students. These all formed significant challenges for the teaching team to work with and can impact not just a students' sense of belonging, but additionally confidence to collaborate with peers which we see as an essential learning outcome for a career in this field.

To foster connections our team designed and embedded a number of activities early in the semester. Our primary goals were to create a meaningful dialogue between the teaching team and students by modelling diversity, allow student voices to be heard and to share their stories, and to demonstrate the ways that the learning space could facilitate communication and collaboration. Drawing on pedagogical literature on Universal Design for Learning, Designing for Diversity and Transition, we ran two activities to initiate this at the beginning of semester, the "my journey to Sydney" activity and the "safety induction scavenger hunt" (CAST, 2018). To assess the impact of the activities on fostering peer-to-peer connections and sense of belonging, students were invited to complete a mid-semester survey. The survey included a series of Likert scale and free text questions centred around the activities and whether the teacher and learning environment helped to foster student connection. Our presentation will explore how these activities have impacted teacher and student experiences of the learning environment, sharing how adapting the learning environment for a diverse cohort can cultivate a sense of belonging.

## REFERENCES

Weeks, R; Denham R. & Thoeming, A; (2023); *Transition to University – 2023 update*; <https://educational-innovation.sydney.edu.au/teaching@sydney/transition-to-university-2023-update/>  
CAST. (2018). *Universal Design for Learning Guidelines*. <https://udlguidelines.cast.org/>

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